# BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

## IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images, please do not report the images to the Image Problem Mailbox.**

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/841,759 | 04/24/2001 | Christopher J. Plummer | SUN1P802/P5257 | 6909 |

22434 7590 06/02/2004

BEYER WEAVER & THOMAS LLP
P.O. BOX 778
BERKELEY, CA 94704-0778

| EXAMINER | |
|---|---|
| TANG, KUO LIANG J | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2122 | |

DATE MAILED: 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/841,759 | PLUMMER ET AL. | |
| | Examiner | Art Unit | |
| | Kuo-Liang J Tang | 2122 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *4/24/2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/10/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

1. This Office Action is in response to the amendment filed on 04/21/2001.

Claims 1-16 are pending and have been examined.

The priority date for this application is 06/12/2000.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Long US Patent No. 6,691,307 in view of Seshadri US Patent No. 6,658,421.

As Per Claim 1, Long discloses a preloader (E.g. see FIG. 9A preloader 172 and associated text); a compiler (E.g. see FIG. 9A Runtime System 174 and associated text, e.g. see col. 7:22-33, compiled) coupled to the preloader arranged to accept the source file as input and produce an object file; and a virtual machine (E.g. see FIG. 5A through 9B, Runtime System and associated text, e.g. see col. 6:10-22, JVM) coupled to the compiler arranged to execute the object file.

Long does not explicitly disclose a preloader arranged to, determine whether a bytecode makes an active reference to a class which requires an execution of a static initializer, determine if the class has a superclass which requires the execution of the static initializer, wherein the preloader produces a source file. However, Seshadri in an analogous art teaches teaches "a

preloader arranged to, determine whether a bytecode (E.g. see col. 4:56, invokestatic) makes an active reference to a class which requires an execution of a static initializer, determine if the class has a superclass (E.g. see col. 4:66 and col. 5:5) which requires the execution of the static initializer, wherein the preloader produces a source file." (E.g. see TABLE 2 at col. 12 and see col. 4:54 to col. 5:5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Seshadri into the system of Long, for the preloader to produce a source file by determining a bytecode makes an active reference to a class or superclass. The modification would have been obvious because one of ordinary skill in the art would have been motivated so that during initialization at run time, the characterizing indicia in the metadata of the referring class is checked for correspondence with referent class metadata.

As Per claim 2, the rejection of claim 1 is incorporated and further Long teaches:

"wherein the preloader is further arranged to; rewrite the bytecode to a new bytecode which indicates that at least one of the class and the superclass requires execution of the static initializer when it is determined that the bytecode makes the active reference to the class which requires the execution of the static initializer.". (E.g. see FIG. 9A preloader 172, Runtime System 174 and associated text, e.g. see col. 7:22-33, output form).

As Per claim 3, the rejection of claim 1 is incorporated and further Long teaches:

"wherein the preloader is further arranged to; rewrite the bytecode to a new bytecode which **explicitly** indicates that at least one of the class and the superclass requires execution of

the static initializer when it is determined that the bytecode makes the active reference to the class which requires the execution of the static initializer.". (E.g. see FIG. 9A preloader 172, Runtime System 174 and associated text, e.g. see col. 7:22-33, output form).

As Per claim 4, the rejection of claim 1 is incorporated and further the combination of Long and Seshadri teach:

"wherein the preloader is further arranged to; rewrite the bytecode to a new bytecode which indicates that at least one of the class and the superclass requires execution of the static initializer when it is determined that the bytecode makes the active reference to the class **which has the superclass** (E.g. see see Seshadri, col. 4:66 and col. 5:5 ) which requires the execution of the static initializer." (E.g. see Long , FIG. 9A preloader 172, Runtime System 174 and associated text, e.g. see col. 7:22-33, output form).

As Per claim 5, the rejection of claim 1 is incorporated and further Long teaches:

"wherein the preloader is further arranged to; rewrite the bytecode to a new bytecode which **explicitly** indicates that at least one of the class and the superclass requires execution of the static initializer when it is determined that the bytecode makes the active reference to the class **which has the superclass** (E.g. see see Seshadri, col. 4:66 and col. 5:5 ) which requires the execution of the static initializer." (E.g. see Long , FIG. 9A preloader 172, Runtime System 174 and associated text, e.g. see col. 7:22-33, output form).

As Per Claim 6, Long discloses a bytecode rewritter (E.g. see FIG. 9A preloader 172 and associated text); a compiler (E.g. see FIG. 9A Runtime System 174 and associated text, e.g. see col. 7:22-33, compiled) arranged to accept source file as input and produce an object file; and a virtual machine (E.g. see FIG. 5A through 9B, Runtime System and associated text, e.g. see col. 6:10-22, JVM) arranged to execute the object file.

Long does not explicitly disclose a bytecode rewritter arranged to, determine whether a bytecode is associated with a scalar field or an object reference field,rewrite the bytecode to identify the bytecode as being associated with the scalar field when the bytecode is associated with the scalar field, rewrite the bytecode to identify the bytecode as being associated with the object reference field, wherein the bytecode rewriter is associated with producing a source file. However, Seshadri in an analogous art teaches teaches "a bytecode rewritter arranged to, determine whether a bytecode is associated with a scalar field or an object reference field, rewrite the bytecode to identify the bytecode as being associated with the scalar field when the bytecode is associated with the scalar field, rewrite the bytecode to identify the bytecode as being associated with the object reference field, wherein the bytecode rewriter is associated with producing a source file." (E.g. see TABLE 2 and see col. 4:54 to col. 5:5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Seshadri into the system of Long, for the bytecode rewriter to produce a source file by determining a reference field of bytecode. The modification would have been obvious because one of ordinary skill in the art would have been motivated so that

during initialization at run time, the characterizing indicia in the metadata of the referring class is checked for correspondence with referent class metadata.

As Per Claim 7, is the system claim corresponding to the method claim 1 and is rejected under the same reason set forth in connection of the rejection of claim 1.

As per Claims 8-11, the rejection of claim 7 are incorporated and are rejected under the same reason set forth in connection of the rejection of claims 2-5 respectfully.

As Per Claim 12, is the computer program product claim corresponding to the method claim 1 and is rejected under the same reason set forth in connection of the rejection of claim 1.

As per Claims 13-16, the rejection of claim 12 are incorporated and are rejected under the same reason set forth in connection of the rejection of claims 2-5 respectfully.

***Conclusion***

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuo-Liang J Tang whose telephone number is 703-305-4866. The examiner can normally be reached on M-F 8:30 to 5:00.

***If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q Dam can be reached on 703-305-4552.***

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9306.

*Kuo-Liang J. Tang*

Software Engineer Patent Examiner

TUAN DAM
SUPERVISORY PATENT EXAMINER